

Montana Department of Transportation
Research Programs
April 2005

**EXPERIMENTAL PROJECT
FOR THE EVALUATION OF AN AUTOMATED FIXED ANTI-ICING DEVICE FOR
USE ON BILLINGS DISTRICT BRIDGE DECK.**

(Work plan)

Location: Billings, Montana: West Laurel Interchange, Interstate 94-
RP 433

Project Name: West Laurel Interchange

Project Number: IM-STPHS 90-8(152)433

Type of Project: Experimental trail of automated anti-icing device for use
on Billings's area bridge. The chosen device will be the
Boschung 'Fixed Automated Spray Technology or 'FAST'

Principal Investigator: Craig Abernathy
Experimental Project Manager

Objective

The West laurel interchange east bound lane has a documented accident history due to icy conditions during winter months. This structure is scheduled to be realigned in five years. Due to the current severity of the accidents at this location the Billings District is installing a fixed automated anti-icing device on the subject structure. Performance measures for effectiveness would be a reduced accident rate. Additional information to be collected would be the durability of the device and the cost of maintaining the equipment. A road weather information system (RWIS) will also be installed to complement the device. Information from the RWIS will provide critical data to support the effectiveness of the anti-icing strategy. The trail implementation of this device will be a determining factor if other bridge structures in the state could be made safer from its use. This project is being funded through Safety.

Experimental Design

Installation of the Boschung FAST equipment based on manufacturer specifications and requirements.

Evaluation Procedures

Documentation of before and after applicable safety data. Compilation of RWIS information based on this trail (frequency, date and time of unit activation, surface data, weather statistics, maintenance problems etc.). Interviews with the snowplow operators and highway patrol will supplement the analysis. Visual documentation of unit in use.

Evaluation Schedule

Research will monitor performance for a period of five years annually, with every year up to *ten years (informally). This is in accordance with the Department's "Experimental Project Procedures". Delivery of a construction report, annual reports is required as well as a final project report (responsibility of Research).

2005:	Construction	Research Construction Report
2005-2009:	Annual Evaluation	Annual reports
2010:	Final Evaluation	Final Report
*2010-2013:	Biennial Evaluation	Annual reports (Informal) – if device is still in use